

ABSTRACT OF THE INVENTION

A multi-stage compression type rotary compressor 10 is provided with an electrical-power element 14, the first and second rotary compression elements 32, 34 driven by a rotary shaft 16 of the electrical-power element 14 in a sealed vessel 12. The refrigerant compressed by the first rotary compression element 32 is compressed by the second rotary compression element 34. The refrigerant is combustible. The refrigerant compressed by the first rotary compression element 32 is discharged to the sealed vessel 12. The discharged medium pressure refrigerant is compressed by the second rotary compression element 34. Additionally, the displacement volume ratio of the second rotary compression element 34 to the first rotary compression element 32 is set not less than 60% and not more than 90%. By using the multi-stage compression type rotary compressor, a rotary compressor using a combustible refrigerant can be carried out.